7204/4CX250F

Beam Power Tube

FORCED-AIR COOLED

CERAMIC-METAL SEALS	**400 WATTS CW OUTPUT TO 175 Mc**
COAXIAL-ELECTRODE STRUCTURE	**250 WATTS CW OUTPUT AT 500 Mc**
COMPACT DESIGN	**INTEGRAL RADIATOR**

For Use at Frequencies up to 500 Mc

The 7204 is unilaterally interchangeable with the 4X250F and bilaterally interchangeable with the 4CX250F. ←

The 7204 is the same as the 7203/4CX250B except for the following items:

Heater, for Unipotential Cathode:

Voltage (AC or DC)*	26.5 ± 10%	volts
Current at heater volts = 26.5.	0.58	amp

* Because the cathode is subjected to considerable back bombardment as the frequency is increased with resultant increase in temperature, the heater voltage should be reduced depending on operating conditions and frequency to prevent overheating the cathode and resultant short life.

CHARACTERISTICS RANGE VALUES FOR EQUIPMENT DESIGN

	Note	Min.	Max.	
Heater Current.	1	0.50	0.62	amp
Direct Interelectrode Capacitances:				
Grid No.1 to plate.	2	–	0.06	μμf ←
Grid No.1 to cathode, grid No.2, and heater.	2	14.2	17.2	μμf
Plate to cathode, grid No.2, and heater.	2	4.0	4.8	μμf
Grid-No.1 Voltage	1,3,4,5	-32	-46	volts
Grid-No.2 Current	1,3,4,5	-7	3	ma
Useful Power Output	4,5,6	225	-	watts

Note 1: With 26.5 volts on heater.

Note 2: With cylindrical shield JEDEC No.320 surrounding radiator; and with a cylindrical shield JEDEC No.321 surrounding the grid-No.2 ring terminal. Both shields are connected to ground.

Note 3: With dc plate volts = 1000, dc grid-No.2 volts = 300, and grid-No.1 voltage adjusted to give plate current of 150 ma.

Note 4: With Forced-Air Cooling as specified under GENERAL DATA — *Air-System Socket*.

Note 5: Heater voltage must be applied for at least 30 seconds before application of other voltages.

Note 6: With heater volts = 24.3, dc plate volts = 2000, dc grid-No.2 volts = 300, dc grid-No.1 volts = -90, dc grid-No.1 ma. = 25 maximum, grid-No.1 signal voltage adjusted to produce dc plate current of 250 ma., and coaxial-cavity amplifier-circuit operating frequency (Mc) = 475.

SPECIAL TESTS & PERFORMANCE DATA

Interelectrode Leakage:

This test is destructive and is performed on a sample lot of tubes from each production run under the following condi-

← Indicates a change.

tions; ac heater volts = 29.1, no voltage on other elements, and specified forced-air cooling for *Air-System Socket*. At the end of 500 hours, with tube at 25° C, and with no voltage applied to heater, the minimum resistance between indicated electrodes as measured with a 500-volt Megger-type ohmmeter having an internal impedance of 2.5 megohms, will be:

Grid No.1 and grid No.2	10 min.	megohms
Grid No.1 and cathode	10 min.	megohms
Grid No.2 and cathode	10 min.	megohms